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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/989,275	11/19/2001	Johann Engelhardt	5005.1010	1089

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EXAMINER

SPEARS, ERIC J

ART UNIT	PAPER NUMBER
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2878

DATE MAILED: 10/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/989,275

Applicant(s)

ENGELHARDT ET AL.

Examiner

Eric J Spears

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-10 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, line 11 recites the limitation "the specimen data". There is insufficient antecedent basis for this limitation in the claim. Further there is no recitation of collecting such data.

Regarding Claim 8, the recitation of the scan fields overlapping renders the claim indefinite as the scan fields were previously recited as bordering each other. Two scan fields cannot be both bordering and overlapping.

Claims not specifically mentioned are indefinite due to their dependency from an indefinite base claim.

Claim Objections

Claims 11-20 are objected to because of the following informalities: the use of the word "arrangement" is objected to. The term "apparatus" would be more appropriate. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 6-13, and 16-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Zuschratter et al. ("Acquisition of multiple image stacks with a confocal laser scanning microscope").

Regarding Claim 1, Zuschratter teaches a method for scanning a specimen, located on a specimen stage defining an X-Y plane with a scanning device which possesses an optical system and defines a scan field that incompletely encompasses a region of the specimen that is to be examined, comprising the following steps:

- a) scanning a portion of the specimen region to be examined with a first scan field,
- b) displacing the specimen stage in the X-Y plane to scan, with further scan fields, further portions of the specimen region to be examined, in such a way that the entire specimen region to be examined ends up within the plurality of scan fields; and
- c) linking the specimen data obtained from the plurality of scan fields (See Abstract; See Fig. 1).

Regarding Claim 2, Zuschratter teaches a method wherein the specimen region to be examined is determined by manual adjustment of the specimen stage in the X-Y plane (last paragraph p 178).

Regarding Claim 3, Zuschratter teaches a method wherein in the specimen region to be examined, the user, by means of a joystick, displaces the specimen stage in the spatial directions defined thereby, the adjustment data ascertained by the joystick being transferred to a PC and to a control unit which correspondingly displaces the specimen stage in the X-Y plane (last paragraph p 178).

Regarding Claim 6, Zuschratter teaches a method wherein a Z direction is defined perpendicular to the X-Y plane; and the displacement of each scan field in the Z direction is achieved by a relative motion between the specimen stage and the optical system (See Fig. 1).

Regarding Claim 7, Zuschratter teaches a method wherein the plurality of scan fields are distributed over the specimen region of interest in such a way that the scan fields border one another (See Fig. 1).

Regarding Claim 8, Zuschratter teaches a method wherein the scan fields partially overlap and thereby define an overlap region (See Fig. 1; See Fig. 8).

Regarding Claim 9, Zuschratter teaches a method wherein the size of the scan field is determined by the optical system of the scanning device (See Intro. lines 11-13).

Regarding Claim 10, Zuschratter teaches a method wherein the scanning device is constituted by a scanning microscope (See Title).

Regarding Claim 11, Zuschratter teaches an apparatus for scanning microscopic specimens, comprising a scanning device; a specimen stage defining an X-Y plane, with which the microscopic specimen is displaceable at least the X-Y plane; a scanning module and an optical system that scan a light beam within a defined scan field across the specimen and detects the light proceeding from the specimen; wherein the scan field is defined in such a way that it incompletely encloses a specimen region of interest that is to be examined', means for moving the specimen stage so that the entire specimen region of interest can be covered by the plurality of scan fields; and a PC, wherein the PC assembles ml overall image from the detected data of the plurality of scan fields of the specimen region to be examined (See Abstract; See Fig. 1; See section "Hardware").

Regarding Claim 12, Zuschratter teaches an apparatus wherein the specimen stage is manually adjustable in the X-Y plane and the specimen region to be examined can thereby be determined (last paragraph p 178).

Regarding Claim 13, Zuschratter teaches an apparatus wherein a joystick is provided with which the user displaces the specimen stage in the X-Y plane in such a way and thus determines the specimen region to be examined, and the PC transfers to a control unit the adjustment data ascertained by the joystick (last paragraph p 178).

Regarding Claim 16, Zuschratter teaches an apparatus wherein a Z direction is defined perpendicular to the X-Y plane; and the displacement of each

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scan field in the Z direction is achieved by a relative motion between the specimen stage and the optical system (See Fig. 1).

Regarding Claim 17, Zuschratter teaches an apparatus wherein the plurality of scan fields are distributed over the specimen region of interest in such a way that the scan fields border one another (See Fig. 1).

Regarding Claim 18, Zuschratter teaches an apparatus wherein the scan fields partially overlap and thereby define an overlap region (See Fig. 1; See Fig. 8).

Regarding Claim 19, Zuschratter teaches an apparatus wherein the size of the scan field is determined by an optical system of the scanning device (See Intro. lines 11-13).

Regarding Claim 20, Zuschratter teaches an apparatus wherein the scanning device is a scanning microscope (See Title).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 5, 14, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zuschratter et al. ("Acquisition of multiple image stacks with a confocal laser scanning microscope").

Regarding Claims 4 and 14, Zuschratter teaches a method and apparatus wherein the specimen region to be examined is marked on a display by means of a mouse click; and on the basis of the mouse click, the scan fields are automatically distributed by the PC over the specimen region to be examined, so that the specimen region to be examined ends up within the plurality of specimen regions; and the specimen stage is automatically displaced in the X-Y plane (last paragraph page 178). Zuschratter does not explicitly state making a selection by a mouse-drawn region. However, the use of a mouse or joystick is well known in the art for selecting and highlighting. It would have been obvious to one of ordinary skill in the art to use the mouse or joystick in another fashion such as making a marking line, in order to select multiple positions at a time.

Regarding Claims 5 and 15, the modified method and device of Zuschratter teaches wherein the PC automatically ascertains, on the basis of the automatically distributed scan fields, adjustment data that are transferred to the control unit, which correspondingly displaces the specimen stage (See page 179).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Brown et al. (2003/0133009) teaches scanning a region in pieces.

Zwirn (4,827,141) teaches a scanning inspection system.

Zavislan (6,134,009) teaches a scanning confocal microscope.

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Zavislan (6,134,010) teaches a scanning confocal microscope.

Zavislan (6,577,394) teaches a scanning confocal microscope.


Janesick (5,844,598) teaches a scanning confocal microscope.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Spears whose telephone number is (703) 306-0033. The examiner can normally be reached on Monday-Friday from 10:00am to 6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on (703) 308-4090. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

EJS
09/11/03


Que T. Le
Primary Examiner